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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,976	04/14/2004	Karl-Heinz Bosch	04-165	7522

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EXAMINER

HOWELL, DANIEL W

ART UNIT PAPER NUMBER

3722

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,976

Applicant(s)

BOSCH, KARL-HEINZ

Examiner

Daniel W. Howell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

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1. Careful reading of several of the claimed phrases, such as “formed in accordance with,” “are incorporated approximately in accordance with,” “are incorporated in the workpiece,” “have a shape optimized in accordance with the geometry,” “optimized in accordance with,” and “calculated from a multiplicity of individual profile sections,” will show that these items may be mental steps not explicitly requiring computer control or any sort of electronic storage or input device.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Segal (1335351). Segal shows a blank 22' which may provided grooves with shapes “in accordance” with the geometry of the cutter used. Cutter 36 is used to provide V-shaped grooves (see figure 1), while cutter 37 is used to provide grooves having flanks which are perpendicular to the blank axis and roots which are parallel to the blank axis (see figure 4). Regarding claim 5, the angle of the groove in the blank is the same as the angle of the cutter surface. Regarding claim 6, as shown in figure 4 the groove root is comparable in shape with the geometry of the cutter 37. Regarding claim 7, note that a conventional key 22 has a series of grooves which are converted into grooves on the blank. The feeler/reading/copying device 24 converts the shape/width/depth/profile sections/grooves/recesses on the key 22 to the blank 22', and the shape

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of the grooves are optimized by using the properly shaped cutter 36, 37. Regarding claims 9-12, the plurality of original keys 22 are considered to be the stored conventional profiles.

4. Claims 1-7 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0133091. Cutter 12 operates on a blank 19 in order to make the proper profile on the blank. Motors are provided to move the blank in X-Y directions relative to the cutter. Different notches or teeth images to be made in the blank are stored in a memory, and commands are given to the X-Y drives in order to make a desired groove/width/depth/flank/profile section/recess with the cutter 12. The images are superimposed in a number corresponding to the number of notches or teeth to be formed. Figure 1 shows a variety of depths and widths, with some of the roots parallel to the workpiece. It is inherent that the device may produce a perpendicular flank if so required by the key to be manufactured. The control commands given to relatively move the cutter and blank are inherently optimized in order to give the workpiece the desired shape. Regarding claims 5-7, the angle of the flank may be made in accordance or comparable with the angle/geometry of the cutter.

5. Claims 1-12 are rejected under 35 U.S.C. 102(a) as being anticipated by Titus et al (6406227). As shown in figures 2-3, an original key is scanned to obtain its shape. Step 1300 of figure 13 provides for analyzing the measured data and develop/optimizing a sequence of cuts to machine the key ways (steps 1304, 1308, see column 12, lines 1+ through column 13, in particular for the discussion of analysis and smoothing of the data). In step 1600, the keyway profile is matched to a required cutter (see column 13, line 55+ through column 14 for the discussion of optimizing). In step 1602, keyway machine stroke data is generated/optimized, such that the profile of the key blank is formed in accordance with the geometry of the tool.

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Figure 18 shows a plurality of cutters 1800-1812 which may be used to cut various profiles, and figure 4 shows one of the cutters cutting a keyway. Regarding column 9, lines 49-52, note that the cutters may cut grooves/flanks which are either perpendicular, parallel, or angled relative to the key blank, dependent upon the desired shape (see figures 1b, 7b, 7d, and 27b also), and that the groove may have the same shape/geometry as the cutter. Figures 6 and 7b show an optical device for measuring the keyway, and lines 43+ of column 8 discuss a mechanical follower 724 (figure 7D) which may alternatively be used to read the master key. Lines 28-37 of column 9 and the paragraph bridging columns 12 and 13 discuss numerous types of memories for storing information of various shapes of keys.

6. Claims 3-7, 11, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The profile recesses of claims 3-7 and 11 do not have antecedent basis as such, and this structure is probably a second name for the grooves of claim 1. In particular for claim 11, there should be no duplication in terms between profile sections, grooves, or recesses. There is no antecedent basis for the stored profile of claim 12. Claim 12 should probably depend from claim 10.

7. While conducting the search, the Examiner found Applicant's corresponding EP 1,468,769 which has several references cited thereon. Applicant is reminded of his duty to disclose known relevant prior art references.

8. Applicant has submitted an unlabeled drawing which apparently is a duplicate copy of figure 4a. It appears that this unlabeled drawing should be canceled.

9. Any inquiry concerning the content of this communication from the examiner should be directed to Daniel Howell, whose telephone number is 571-272-4478. The examiner's office

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hours are typically about 10 am until 6:30 pm, Monday through Friday. The examiner's supervisor, Monica Carter, may be reached at 571-272-4475.

In order to reduce pendency and avoid potential delays, Group 3720 is encouraging FAXing of responses to Office actions directly into the Group at FAX number to 571-273-8300. This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Daniel Howell of Art Unit 3722 at the top of your cover sheet.



Daniel W. Howell
Primary Examiner
Art Unit 3722